IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claim 1 (canceled).

2.   (currently amended)A packet communication apparatus for transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, said packet communication apparatus comprising:

a packet generating unit which generates a second header used to compose a closed network in the second network based on the IP address and information in the first header; and

a transmitter which transmits a packet having added thereto said second header.

3.   (previously presented)   A   packet   communication   apparatus according to claim 2, further comprising:

a processing unit which replaces the first header with the second header.

4.   (previously presented)   A   packet   communication   apparatus according to claim 2, further comprising:

a route decision processing unit which decides a route to the second network according to the IP address and information in the first header.

5.   (previously presented)   A   packet   communication   apparatus according to claim 2, wherein the packet is an IP packet.

6.   (currently amended)A packet communication method of transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, the packet communication method comprising the steps of:

receiving the packet; and

generating a second header used to compose a closed network in the second network based on the IP address and an-information in the first header.

7.   (previously presented)   A packet communication method according to claim 6, further comprising the step of:

replacing the first header with the second header.

8.   (previously presented)   A packet communication method according to claim 6, further comprising the step of:

deciding a route to the second network according to the IP address and information in the first header.

9.   (previously presented)   A   packet   communication   apparatus according to claim 4, wherein the packet is an IP packet.

10. (previously presented) A packet communication system comprising:

a first network;

a second network; and

a router which transmits a packet from the first network to the second network,

wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, and

wherein the router generates a second header used to compose a closed network in the second network based on the IP address and information in the first header.

11. (previously presented) A packet communication system according to claim 10, wherein the router replaces the first header with the second header.

12. (previously presented) A packet communication system according to claim 10, wherein the router decides a route to the second network according to the IP address and information in the first header.

13. (new) A packet communication apparatus for transmitting a packet from a first network to a second network, wherein the packet includes an Internet

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Protocol (IP) address and a first header used to compose a closed network in the first network, said packet communication apparatus comprising:

an index generating unit which generates a second header used to compose a closed network in the second network based on the index; and

a transmitter which transmits a packet having added thereto said second header.

14. (new) A packet communication apparatus according to claim 13, further comprising:

a processing unit which replaces the index with the second header.

15. (new) A packet communication apparatus according to claim 13, further comprising:

a route decision processing unit which decides a route to the second network according to the IP address and information in the first header.

16. (new) A packet communication apparatus according to claim 13, wherein the packet is an IP packet.

17. (new) A packet communication method of transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, the packet communication method comprising the steps of:

receiving the packet;

generating an index based on the IP address and information in the first header; and

generating a second header used to compose a closed network in the second network based on the index.

18.　(new) A packet communication method according to claim 17, further comprising the step of:

replacing the index with the second header.

19.　(new) A packet communication method according to claim 17, further comprising the step of:

deciding a route to the second network according to the IP address and information in the first header.

20.　(new) A packet communication apparatus according to claim 16, wherein the packet is an IP packet.

21.　(new) A packet communication system comprising:

a first network;

a second network; and

a router which transmits a packet from the first network to the second network,

wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, and

wherein the router generates an index based on the IP address and information in the first header, and generates a second header used to compose a closed network in the second network based on the index.

22.　　(new) A packet communication system according to claim 21, wherein the router replaces the index with the second header.

23.　　(new) A packet communication system according to claim 21, wherein the router decides a route to the second network according to the IP address and information in the first header.